



## **Promethera Biosciences SA**

Vinciane Wouters (Senior Regulatory Affairs Manager)

**RARE 2013**

**Montpellier**

**28 Novembre 2013**

« Many inborn errors of metabolism are liver-based  
Many are imperfectly controlled »

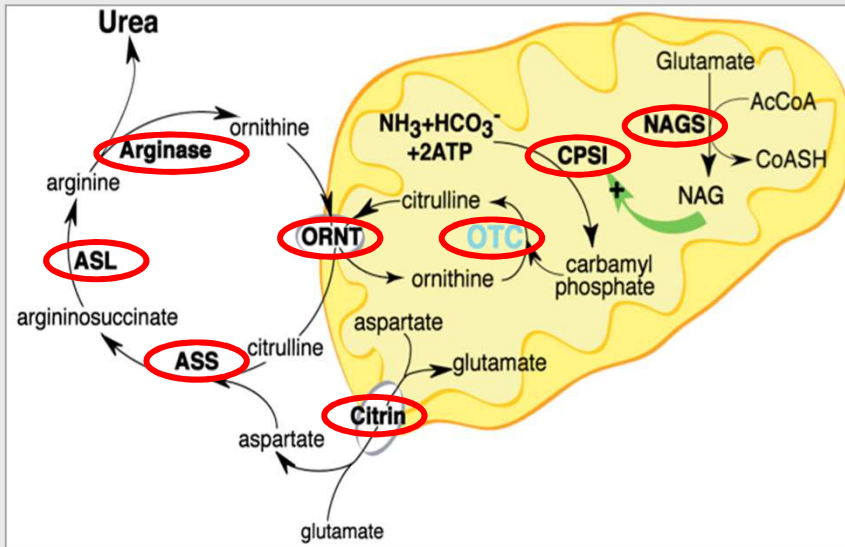
**ONE SINGLE MISSING ENZYME CAN HAVE A DRAMATIC CONSEQUENCE  
ON THE QUALITY OF LIFE**



**CRIGLER-NAJJAR SYNDROME**  
**Ad vitam phototherapy, 12h/day**

- Incidence: 1/1,000,000 births
- Poor quality of life
- Sudden brain damage may occur at any age
- Long term progressive fibrosis and cirrhosis
- Soon or later transplanted

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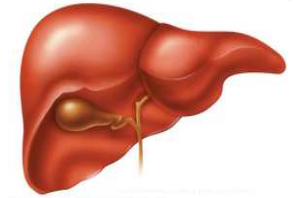
Modified from Urea Cycle (from Children's National Medical Center, 2007)

### UREA CYCLE DISORDERS (8 forms)

- Carbamoylphosphatase I deficiency
- Ornithine transcarbamylase deficiency
- Citrullinemia type I
- Argininosuccinic aciduria
- Arginase deficiency
- N-Acetylglutamate synthase deficiency
- Citrullinemia type II
- Ornithine translocase deficiency

- Overall incidence of all UCD in Europe: 1:8,000-1:44,000
- Acute/Chronic Ammonium Intoxication > Sudden decompensation at any age
- Mortality up to 50% for neonatal onset and 28% for late onset
- Low IQ < 50 for neonatal onset, neurologic and psychiatric problems in all forms.

**Unmet Medical need !**



## HEPATOCYTES vs STEM CELLS : **Two different approaches**

HEPATOCYTES

- Immediate Support
- Transient Support
- “Bridging”

STEM CELLS

- Progressive effect
- Permanent support
- “Treatment”



**ACADEMIC INNOVATION LEADING TO A SPIN-OFF...**  
Promethera Biosciences is a spin-off of the UCL (Brussels)

UCL

- **2005:** Discovery of the Live Progenitor Cells named “HHALPC” by Prof Etienne Sokal’s team
- **2005 to 09:** Academic Proof of Concept (preclinic)
- **2009 to 11:** Clinical investigations (Hospital Exemptions)



*HHALPC: Heterologous Human Adult Liver Progenitor Cells*



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PB

- **2009:** CREATION OF PROMETHERA BIOSCIENCES
- **Oct 2009:** First round of fundraising (€5.3 M)
- **March 2012:** Second round of fundraising (€23,6M)

HHALPC: Heterologous Human Adult Liver Progenitor Cells

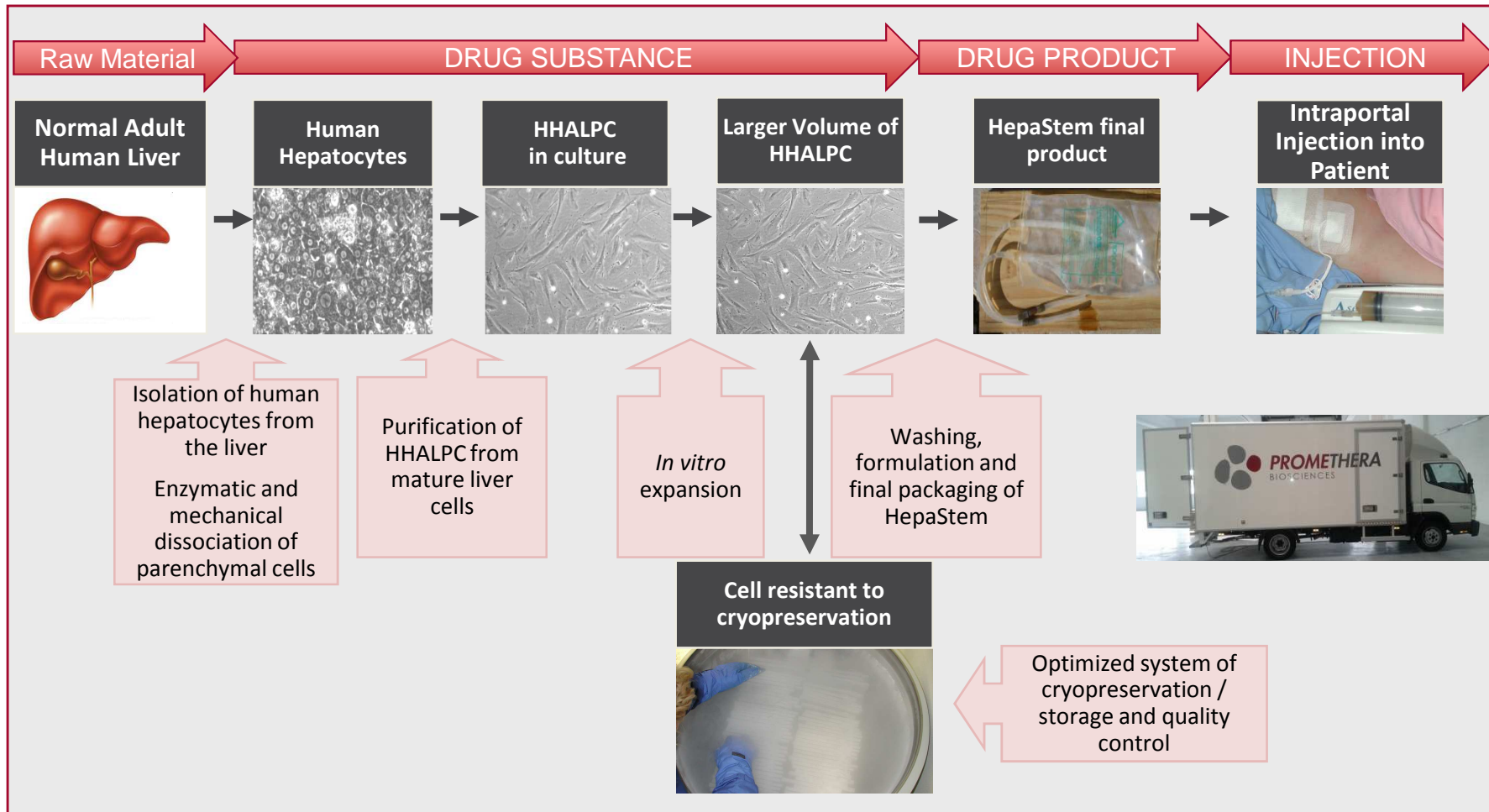
- *Main investors : Vesalius Biocapital, Mitsui Global Investment, BI Venture Fund, Shire, ATMI and SRIW.*

**Promethera Biosciences is developing an “Advanced Therapy Medicinal Product (ATMP)”**

**HepaStem**

- **Innovative Medicinal Product to treat miscellaneous liver diseases**
- **Orphan Designations for the treatment of Crigler-Najjar Syndrome and Urea Cycle Disorders indications in Europe and US**
- **Pediatric development**
- **GMP accreditation of facilities based in Belgium**
- **Proof of concept demonstrated in animal models (in collaboration with CRO)**
- **Phase I/II Clinical trial opens in Belgium, France, UK, Italy and Israel**

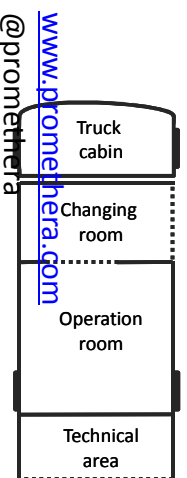
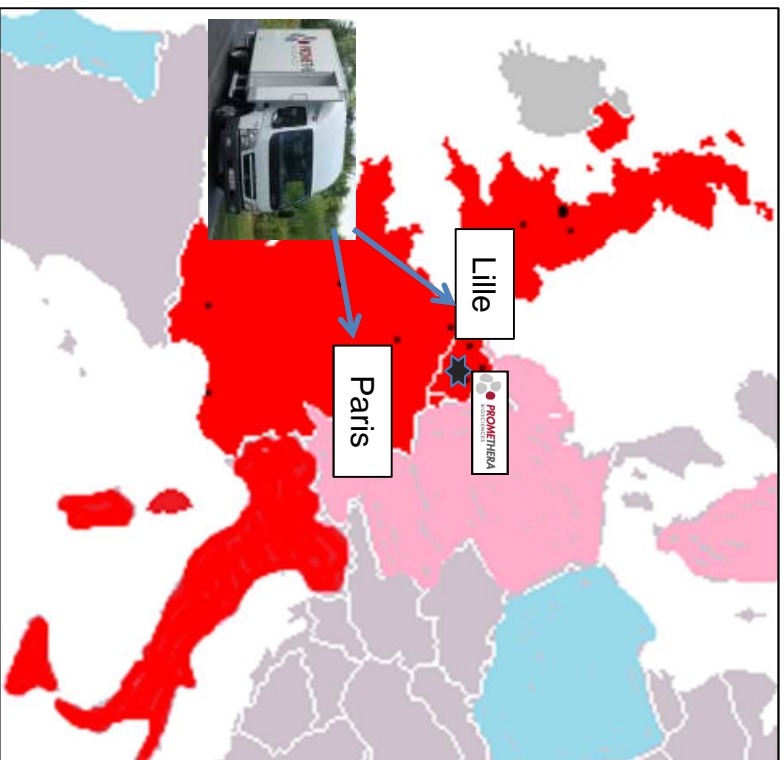
**“Full GMP” Manufacturing Process**



\*Note: Method subject to an international patent application  
HHALPC = Heterologous Human Adult Liver-derived Progenitor Cells



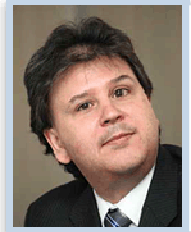
In France:





... headed by an experienced management team.

**Eric Halioua, MBA: Chief Executive Officer**



© Michel Houet BioWin DR 2010

- Master degrees in Pharmacology and Molecular Biology, graduate from ESSEC business school
- co-founder of two biotechnology companies called Myosix and Murigenetics
- principal of the international life sciences practice of Arthur D. Little based in Paris and Boston

**Claude Dedry: Chief Operating Officer**



- Industrial Pharmacist and graduate in business administration (EPM, Belgium),
- Searle-Monsanto in the department of quality control of the center of European development
- 15 years experience with Glaxo SmithKline Biologicals.

**Professor Etienne Sokal, MD, PhD: Chief Scientific Officer**



- Paediatrician specialized in gastroenterology with 20 years experience in the field of paediatric hepatology and liver transplantation
- More than 200 peer-reviewed publications
- Leader of a research team actively working on liver associated metabolic diseases in children

**Carole Monterrat, PhD, MBA: VP Resources**



- PhD in molecular and cellular biology from the University of Bordeaux
- executive master in finance from the Solvay Business School
- Several research positions within the Rhône-Poulenc Rorer research development team at Dagenham (Essex, UK),

**Beatrice De Vos, MD, PhD: Chief Medical Officer**



- Belgian board certified medical doctor and specialist in pharmaceutical medicine
- 19 years experience in leading positions of clinical research and medical affairs departments of major international pharmaceutical companies (Wyeth-Ayerst R&D, GSK Bio, Sanofi Pasteur).

**René Mignolet : VP of Regulatory Affairs**



- PhD, MBA, Managing Director of RLM Consulting (RA Consultancy Company)
- More than 25 years experience in the manufacturing, regulatory guidance and marketing of bio medicinal products acquired with GSK Bio, Wyeth, Nabi Biopharmaceuticals .

*Thank you for your attention !*



[www.promethera.com](http://www.promethera.com)  
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